

Application No.: 10/634,476
Amendment and Response dated October 24, 2005
Reply to Office Action of July 22, 2005
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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) An asphalt composition comprising:
asphalt; and
a solution comprising a polymerizable monomer solvent and a rubber or elastomeric polymer.
2. (Currently amended) The asphalt composition according to Claim 1, wherein said rubber or elastomeric polymer is selected from the group consisting of a styrene-butadiene copolymer, a styrene-isoprene copolymer, and an ethylene vinyl acetate copolymer; polyethylene, and polypropylene.
3. (Original) The asphalt composition according to Claim 1, wherein said polymerizable monomer solvent is selected from the group consisting of styrene, N-vinylpyridine, N-vinyl-2-pyrolidone, α -methylstyrene, vinylnaphthalene, alkylated styrene, and combinations thereof.
4. (Original) The asphalt composition according to Claim 1, further comprising a crosslinking agent.
5. (Original) The asphalt composition according to Claim 4, wherein said crosslinking agent is selected from the group consisting of divinylbenzene, diallylphthalate, diallylmaleate, ethoxylated bisphenol A dimethacrylate, polyethylene glycol dimethacrylate, polyethylene glycol diacrylate, and combinations thereof.
6. (Original) The asphalt composition according to Claim 2, further comprising a crosslinking agent comprising a difunctional compound which crosslinks at olefinic sites of

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said rubber or elastomeric polymer.

7. (Original) The asphalt composition according to Claim 6, wherein said crosslinking agent is a bismaleimide compound.

8. (Original) The asphalt composition according to Claim 6, further comprising a solvent in which said crosslinking agent is dissolved prior to addition to said asphalt.

9. (Original) The asphalt composition according to Claim 1, further comprising a free radical initiator.

10. (Original) The asphalt composition according to Claim 9, wherein said free radical initiator is selected from the group consisting of peroxides, hydroperoxides, azo compounds, peroxyesters, and combinations thereof.

11. (Original) The asphalt composition according to Claim 10, wherein said peroxide initiator is selected from the group consisting of cumenyl hydroperoxide, di-tert-butylperoxide, and combinations thereof.

12. (Original) The asphalt composition according to Claim 1, further comprising an inhibitor.

13. (Currently amended) The asphalt composition according to Claim 12, wherein said inhibitor is selected from the group consisting of t-butylcatechol, hydroquinone, ~~hydroxyl-
TEMPO~~ 4-hydroxy-2,2,6,6-tetramethyl-1-piperidinyloxy, free radical, quinonemethides, diethylhydroxylamine, and combinations thereof.

14. (Original) A method of adding a rubber or elastomeric polymer to asphalt, comprising the steps of:

heating the asphalt;

dissolving the rubber or elastomeric polymer in a polymerizable monomer solvent to form a polymer solution; and

adding the polymer solution to the heated asphalt.

15. (Original) The method according to Claim 14, wherein the step of heating the asphalt comprises heating the asphalt to a temperature of about 200°F to about 600°F.

16. (Original) The method according to Claim 14, wherein the step of heating the asphalt comprises heating the asphalt to a temperature of about 325°F to about 400°F.

17. (Original) The method according to Claim 14, further comprising the step of adding a free radical initiator to the heated asphalt to assist in the reaction of the polymerizable monomer.

18. (Original) The method according to Claim 17, wherein the free radical initiator is added to the heated asphalt with the polymer solution.

19. (Original) The method according to Claim 17, wherein the free radical initiator is added to the heated asphalt at a period of time after the addition of the polymer solution.

20. (Original) The method according to Claim 19, wherein the period of time comprises less than about 24 hours.

21. (Original) The method according to Claim 14, further comprising the step of adding an inhibitor to the heated asphalt.

22. (Original) The method according to Claim 14, further comprising the step of adding a crosslinking agent to the heated asphalt.

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23. (New) An asphalt composition comprising:
asphalt; and
a solution comprising a polymerizable monomer solvent and a thermoplastic polymer or
thermosetting resin, said thermoplastic polymer being selected from the group consisting of
polyethylene and polypropylene.